Organization Overview

1. Mission

Located in north Alabama, the U.S. Army Engineering and Support Center, Huntsville (HNC) is a major subordinate command (MSC) serving under Headquarters, U.S. Army Corps of Engineers (HQUSACE). The Corps structure also includes 8 divisions, 40 geographic districts, 4 labs, 5 field operating activities, and 1 other program center. Although most Corps organizations' missions are tied to geographic boundaries, our mission is defined programmatically and functionally; that is, we do work that can be done more efficiently at the national level rather than at the regional level or that the Corps' traditional structure cannot accomplish efficiently.

Huntsville Center's chartered mission	
1.	National programs
2.	Programs that are broad in scope or technically complex
3.	Programs requiring integrated facilities or systems crossing geographical division boundaries
4.	Programs requiring commonality, standardization, multiple site adaptations, or technology transfer
5.	Programs requiring a centralized management structure for effective control of program development, coordination, and execution
6.	Programs requiring services not normally provided by other Corps organizations

2. Organizational Structure

Our structure is aligned to reinforce customer focus. As shown in our organizational chart on page v, directorates serving our external customers report to our civilian deputy, and directorates and offices serving our internal customers report to our military deputy. Within this structure, our primary work unit is the integrated process team (IPT). IPT's are cross-functional teams that bring together the required mix of resources and skills needed to deliver a specific product or service. The circles in the chart represent the IPT's executing our key processes, which are shown in the arrows. By reducing hierarchical barriers through teaming, our employees are less hindered by bureaucratic boundaries. We attribute our low operating costs, in part, to our flatter team structure.

3. Funding and Operating Climate

Unlike most Corps of Engineers organizations, our work is not predetermined by geography. We are, therefore, 100-percent cost reimbursable; that is, we do not receive congressional appropriations as do most other Corps and Federal organizations. Our basic funding source is a customer base that is free to look elsewhere for products and services. As a result, we operate much like a business, with customers who expect competitive costs. Each dollar that we spend is a customer dollar that must be accounted for. Every hour of work is tracked through our Corps of Engineers Financial Management System (CEFMS) so that customers know exactly how their money is spent.

4. Major Markets

Figure 1 shows our major markets. Table 1 shows a breakdown of our product lines, products, customers, suppliers, and partners. Market trends in fig. 7.2-17 demonstrate our ability to respond to changing market needs. Demilitarization includes the Department of Defense's largest and most complex construction project, chemical demilitarization (chem demil) plants.

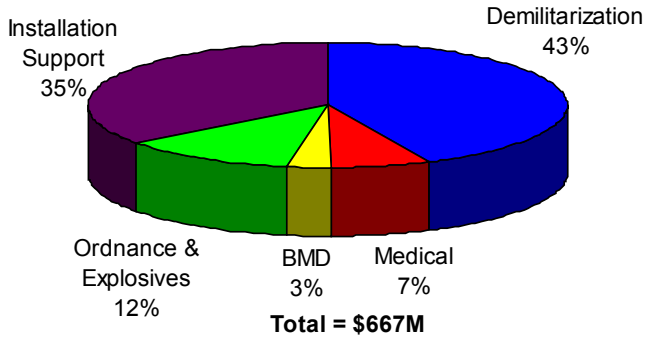

Figure 1. Markets by FY99 product line funds.

5. Employee Profile

We have 5 Army officers and about 636 civilian employees. Average employee age is 46.5 years, with 285 employees holding bachelor's degrees and 70 with advanced degrees. Our work force composition is 40.9% female, 59.1% male, 85.2% Caucasian, 14.8% minorities (11.4% African-American, 0.6% American Indian, 1.5% Hispanic, and 1.3% Asian Pacific). By employee vote, we do not have union representation.

6. Key Processes

Our products and services are produced through our four key processes listed below. Integration of those processes are shown by the arrows circling the product lines in our organizational chart, page v:

- Engineering and technical services
- Construction management
- Program and project management
- Contracting

Through those key processes, we serve as the design and construction manager for Chem Demil plants and as the Corps of Engineers center of expertise for the Range and Training Land

Table 1. Huntsville Center markets by product line, with key customers, suppliers, and similar providers

Product Line	Product/Service	Primary Customers	Major Suppliers/Partners	Competitors/Similar Providers
Demilitarization: ▪ Chemical Stockpile Disposal ▪ Nonstockpile Disposal ▪ Russian Demil ▪ Large Rocket Motor Demil	Design/construction of demilitarization plants for chemical munitions and rocket motors; nonstockpile cleanup; Russian Demil support	PMCD, HQUSACE, SARDA, IOC, OSD	Corps districts, Quality Research; Westinghouse; Bechtel; Raytheon; Ralph M. Parsons; Teledyne Brown; PM Nonstockpile, Technical Escort Unit	Tennessee Valley Authority, foreign governments
Medical: ▪ Medical Program ▪ Medical CX ▪ OMEE	O&M repair/renewal, equipment acquisition	MEDCOM, Air Force, VA	Corps districts, Kirlin, Earth Tech, Siebe, Syska & Hennessy, PC2/Sys.Corp.; Health Facilities Planning Agency, MEDCOM Tech Team	CESAM, CESWF, NAVFAC, VA
Ballistic Missile Defense: ▪ National Missile Defense ▪ Theater Missile Defense	Management of BMD facility design and construction	BMDO, SMDC, Boeing, NMD	Black & Veatch, POD, CRREL, NMO	SMDC, Air Force, NAVFAC
Ordnance & Explosives (OE)	OE clearance on Federal sites; policy implementation guidance, safety oversight, and applied technology development	Departments of Army, Air Force, & Navy; Under Secretary of Defense for Environmental Security, HQUSACE, Corps Districts, Forts McClellan, Drum, and Irwin.	Corps districts; EHSI, Zapata; Earth Tech; Environmental Science & Engir.; Montgomery Watson; Foster Wheeler; Ralph M. Parsons; Human Factors Applications; CMS; American Technologies Inc.; UXB, Inc.	AEC, USATCES, Navy, EOD Technology Center, military services
Installation Support: ▪ Design Services ▪ Energy Program ▪ Criteria Documents ▪ Range Program ▪ UPH ▪ Electronic Technologies ▪ Automated Systems ▪ Environmental ▪ Advanced Technology ▪ Legacy ▪ OMEE ▪ AFCS ▪ Operational Forces Support	Engineering, contracting, legal, mgt. services for energy systems, including ESPC's; O&M remediation contracting; utilities privatization; central mgt services; range design, dev & mgt of software, utilities efficiency; guide specs; support to deployed forces for any of the services, as needed.	FORSCOM; DOE; DMA; CPW; USAR; Marines; DSC; DLA; AMCOM; DRMS; DFSC; INSCOM; OSD; IOC; Army; Air Force; DAMO; HQUSACE; TRADOC; DFSC; MEDCOM; SMDC, DLA, AMC, HQDA, JCS, Nat'l Guard, Coast Guard, Navy, USAEUR, SOUTHCOM, CENTCOM, ACSIM, HQUSACE, ARNG, USMC	Corps districts/labs; HEC; Northeast Energy Services; Honeywell; Duke Engineering; Equitable Resources; CoEnergy; CES Way; Systems Corp.; SEIBE; Vanguard; CEMP-ET, CEMP-EA, Syska and Hennesey; J&J Mgt, Inc; Parsons; Physitron, Inc; TBE; ARL; SNL; PL; NSWC; Crane; Dyntel; CRST planning team, Combat Training Support, Nat'l Planning Group; TRADOC	DOE, Air Force, DOD Labs, Corps districts, NAVFAC, Military Services, DLA

Program (RTLP), Utility Monitoring and Control Systems (UMCS), Ordnance and Explosives (OE), Intrusion Detection Systems (IDS), Operation and Maintenance Engineering Enhancements (OMEE), Energy Savings Performance Contracts (ESPC), Tri-Services Automated Cost Engineering System (TRACES), and Programming, Administration and Execution (PAX) Systems.

7. Major Equipment, Technologies, & Facilities

a. Equipment and Technologies. Because of the technical nature of our work, computers and other electronic equipment are our major equipment investment, enabling us to use, enhance, and develop automation technologies.

- Computer-aided Drafting and Design (CADD), Global Positioning System (GPS), Geographical

Information Systems (GIS), internet/intranet, and electronic contract management are integrated into our products and services.

- For our work in OE cleanup, we use and develop specialized equipment and technologies, such as remote video inspection, model-based ordnance characterization, neural networks, geophysical mapping, and synthetic aperture radar.
- Our RTLP has developed a specialized software program to analyze line-of-sight, target visibility, and target applicability for qualification training, which is used on all armor ranges.
- We design, upgrade, and manage automated systems for other military services, such as TRACES and PAX.
- We design Chem Demil plants, including their automated and robotics systems. We also buy the technical equipment for those plants.

b. Facilities. Our main office facility in Huntsville houses most of our employees. We have resident offices in Anniston, AL; Hermiston, OR; Pine Bluff, AR; Aberdeen, MD; and Newport, IN. We have onsite liaison offices for the Program Manager for Chemical Demilitarization (PMCD) at Aberdeen Proving Ground, Edgewood, MD, and for Production Base Support (PBS), Rock Island, IL. We also maintain a Chem Demil project office in Moscow, Russia. Finally, elements of the Medical Center of Expertise and Installation Support directorates are located near Washington, DC.

8. Key Requirements

Our five key requirements are quality, cost, schedule, customer satisfaction, and safety. Business action plan development and execution and our team performance measures are aligned through those key requirements.

9. Supplier and Partnership Relationships

Our suppliers are architect-engineer (A-E) firms, construction contractors, equipment manufacturers, and service contractors. Our primary service suppliers provide our automated systems support. Our suppliers are managed through our contracts and evaluated through our evaluation systems.

To help ensure that we develop and maintain effective, long-term supplier relationships, our strategy includes using multiple-year, multiple-award contracts. Of our 16 A-E delivery order contracts, 12 are five-year contracts, 2 are three-year contracts, 2 are four-year contracts, and 5 are two-year contracts.

We maintain partnerships with Corps organizations in various areas. Table 2 shows the work we have sent to our Corps partners in millions of dollars.

Table 2. Work sent to Corps partners

FY95	FY96	FY97	FY98	FY99
$46.7M	$51.3M	$50.2M	$48M	$39.6M

10. Changes in Direction

a. Quality Alignment. In late FY95, we adopted the Baldrige criteria as the self-assessment tool for improving business processes. Through Baldrige, Huntsville Center transformed itself from one of the Corps' most expensive elements to its most efficient. Even more, comparisons to private industry show that we are more efficient than A-E firms doing similar work. Table 3 below shows a before-and-after corporate-level comparison of our cost efficiency, which translates into over $80M in savings in in-house costs alone.

Table 3. Improvement through Baldrige

Indicator	*FY92-95*	*BALDRIGE*	*FY96-99*	*Change*	*FY 99 Only*	*Change*
In-house % of total expenditures	*11.3%*		*7.7%*	*32%*	*6.4%*	*43%*
G&A	*42%*		*28%*	*33%*	*24%*	*43%*
Engineering TLM	*2.8*		*2.40*	*14%*	*2.42%*	*14%*
Workload/FTE (current dollars)	*$735K*		*$1064K*	*45%*	*$1356K*	*84%*
TOTAL SAVINGS = $80.3 Million						

Our customers have noticed. Since 1995, customer satisfaction ratings have risen, making us leaders in the Corps of Engineers (fig. 2). Question 7 is cost and question 6 is quality, indicting that we have improved costs while improving satisfaction with quality.

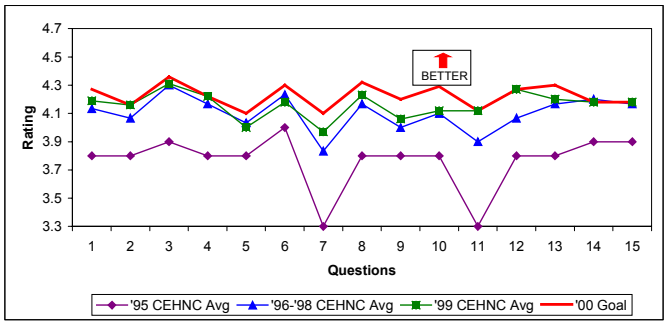

Figure 2. Customer Survey Trend (scale of 1 to 5)

Furthermore, at a time of military budget cutbacks, our overall program increased 94%. Even

private industry partners have responded. Boeing Corporation, the lead systems integrator for National Missile Defense (NMD), included us in its bid proposal. As a result, we are the NMD manager for facilities design and construction.

How did we do it? We executed our quality initiatives through four guiding principles as follows:

- Reduce boundaries:
  - ✓Flatten the organization.
  - ✓Implement and refine teaming.
  - ✓Develop team performance awards.
  - ✓Conduct peer reviews.
  - ✓Implement and refine partnering.
- Focus on cost effectiveness:
  - ✓Educate the work force.
  - ✓Hold monthly business meetings.
  - ✓Provide visibility/feedback.
  - ✓Develop a realistic budget.
  - ✓Ensure management involvement.
- Adapt to changing environment:
  - ✓Develop a strategic plan for where we're headed.
  - ✓Develop business plans for products lines and track through performance indicators.
  - ✓Implement and refine teaming.
- Play by the rules:
  - ✓Train all fiscal managers in appropriations law.
  - ✓Continually evaluate and refine processes to ensure regulatory compliance.
  - ✓Emphasize acquisition plans and strengthen contractor surveillance.
  - ✓Document personnel selection process.
  - ✓Establish systematic internal reviews to ensure legal and regulatory compliance.

b. Changes in responsibility. Our level of responsibility has grown from support of program elements to cradle-to-grave management of programs, such as Chem Demil plant design and construction. Through the initiatives under our guiding principles, above, we are able to take on more responsibility (fig. 3) with less staff (fig. 4).

11. Competitive Factors

a. Relative position in the industry. If we were a private design firm, we would be the eleventh largest of the top 500 design firms (ENR, 10 April 2000). Our share of Corps work as measured in FY99 military program dollars is about 8.0%.

b. *Limits on competing*. Because we are a government agency, laws, regulations, and manpower ceilings govern the extent to which we may perform certain work. For example, without specific authority, we are not permitted to compete with private industry for work. In addition, our headquarters regulates new work distribution throughout the Corps of Engineers. Within those narrow limits, we study the military market for areas that could benefit from our services. As a result, we developed and market the product lines listed in table 1. Our corporate long-term strategic goal is a steady state with modest growth through productivity (table 2.2-1).

c. *Comparison to similar providers.* By fully participating in internal management review, such as the USACE Command Management Review (CMR), which reviews the business practices and products of all Corps offices, we are better able to improve and verify our own effectiveness and efficiency. Through the CMR, we compare ourselves to Corps districts—especially those with large military programs.

Another indicator of our competitiveness is our increasing workload. In December 1998, we were appointed by the Chief of Engineers and the Program Manager, NMD to be the program manager for facilities design and construction. Government

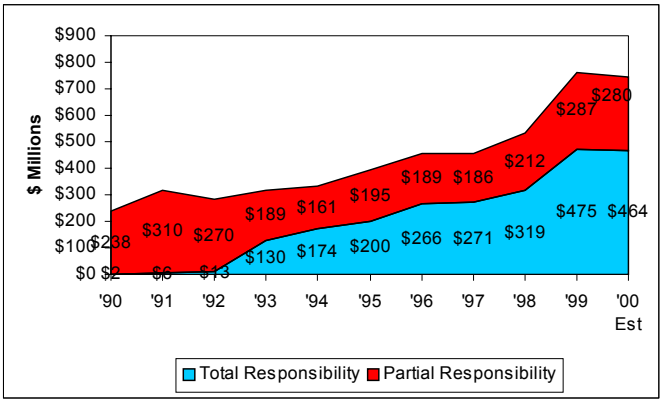

Figure 3. Growth in program responsibility

Error! Not a valid link.*Figure 4. Staffing trends versus workload*

work transferred to us per customer request is Russian Demil facilities construction. In November 1998, we were designated by the Chief of Engineers to be the Installation Support Center of Expertise. In April 1999, we were designated to receive the operational mission responsibility of the Medical Facilities Office in Washington, DC.

d. Competitive success factors. Like a business, we depend on customers to fund products and

services. Therefore, because our customers have consistently told us that our costs were a principal concern for them, we have focused our measures heavily toward costs. As we improved cost satisfaction, we have also improved customer satisfaction with the quality.

e. Changes affecting competition. One change affecting competition is increasing emphasis on privatization; therefore, government organizations must become as efficient as private industry in order to retain work. Another factor is the Government Performance and Results Act of 1993, which mandates that program funding be based on efficiency measures by 2000. Because of those factors, we closely manage our costs.

12. Other factors

Regulatory Environment. Two of our product lines, OE and Chem Demil, operate in an environmental climate that includes Federal and state laws and regulations governing the removal, handling, storage, and transportation of conventional and chemical munitions. Those laws and regulations often conflict, thereby affecting the progress of our projects. To mitigate such effects, we advise those developing regulations. To ensure that laws and regulations are followed, we help develop local and national policies for program execution.

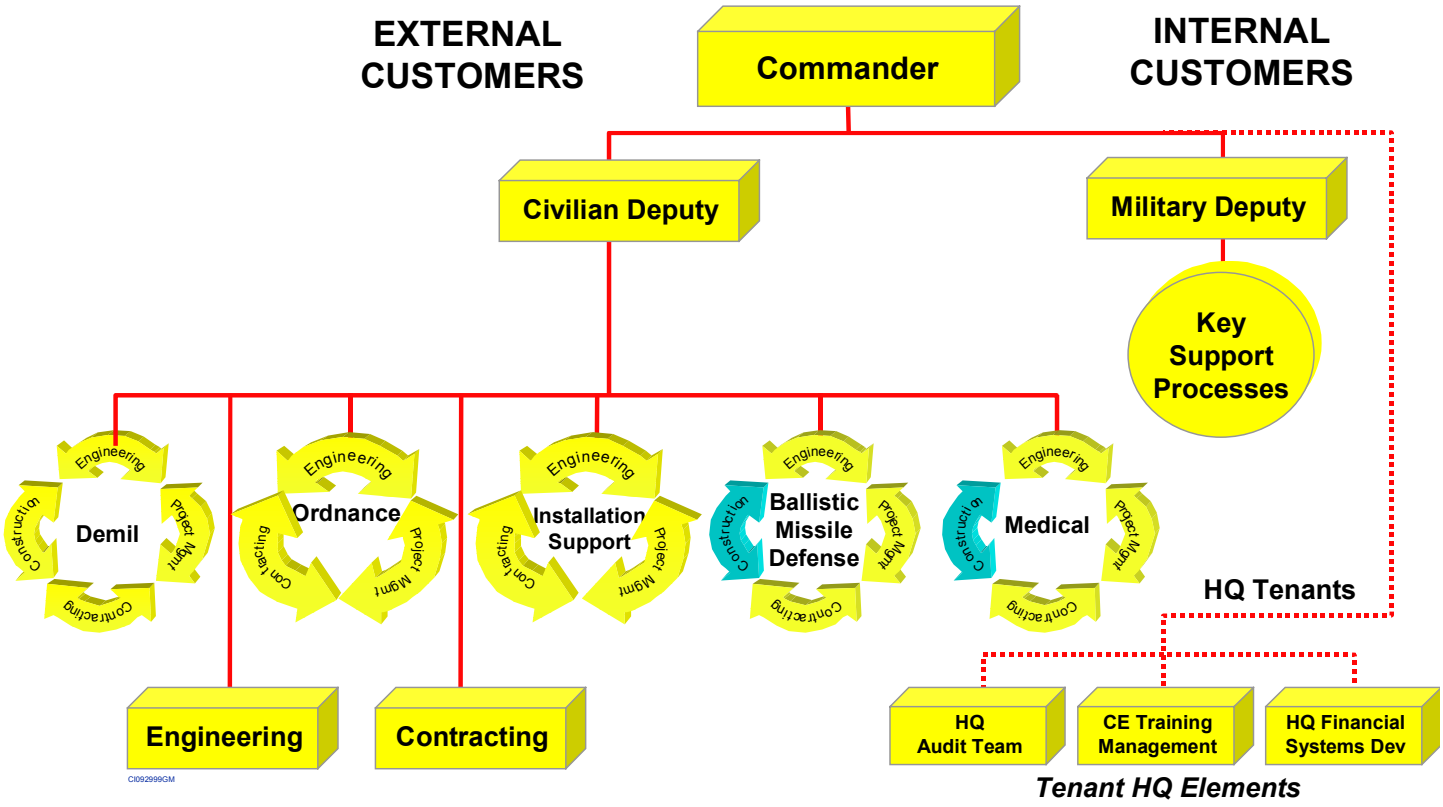

Figure 5. Huntsville Center is organized along a customer-focused team structure. The circles represent our integrated process teams (IPT's) executing our four key processes, (1) engineering and technical services, (2) construction management, (3) program and project management, and (4) contract management. Through dedicated or matrixed teams, we are able to re-form our organization and integrate any processes needed to provide products and services to specific customer needs.